

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Currently amended): Squeeze protecting device arranged to detect the presence of an object in a protection area comprising a housing and an antenna unit connected to a detecting circuitunit, which circuit is arranged to, via said antenna unit, detect capacitive variations in an electric- or electro-magnetic field at said antenna unit, characterised in that said detecting circuit comprises

~~means connected to said antenna unit arranged to detect a variation of the pressure at said antenna unit caused by compressive force applied at said housing,~~

a signal generator that provides a signal to the antenna unit that generates the~~generating means for generating an~~ electric or electro-magnetic field at the antenna unit;

balancing means for maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

filter means for preventing the detecting circuitunit from being affected by variations in temperature and moisture; and

detecting means for detecting small variations in the generated electric or electromagnetic field at the antenna unit and/or a variation of pressure at said antenna unit caused by a compressive force applied to said housing, and
~~indication means for indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred,~~ wherein the presence of conductive as well as non-conductive objects in said protection area~~field~~ can be detected.

Claim 2 (Currently amended): Squeeze protecting device arranged to detect the presence of an object in a protection field comprising a housing and an antenna unit connected to a detecting circuit~~unit~~, which circuit is arranged to, via said antenna unit, detect capacitive variations in an electric- or electro-magnetic field at said antenna unit, characterised in that said antenna unit comprises a plurality of conductive elements connected to said detecting circuit ~~and that said detecting circuit comprises means connected to said antenna unit arranged to detect a compressive force applied at said housing as a variation of the distance between a first and a second conductive element of the antenna unit,~~ wherein the detection circuit comprises:

a signal generator that provides a signal to the antenna unit that generates the~~generating means for generating an~~ electric or electro-magnetic field at the antenna unit;

balancing means for maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

filter means for preventing the detecting ~~circuit~~unit from being affected by variations in temperature and moisture; and

detecting means for detecting small variations in the generated electric or electromagnetic field at the antenna unit and/or detecting a compressive force applied at said housing as a variation of the distance between a first conductive element and a second conductive element of the plurality of conductive elements; ~~and~~

~~indication means for indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred~~, wherein the presence of conductive as well as non-conductive objects in said protection field can be detected.

Claim 3 (Currently amended): Squeeze protecting device according to claim 1 or 2, ~~in combination with claim 1,~~ characterised by that said means of~~wherein~~ the detecting

circuit ~~detects for detecting~~ a variation of the pressure at the antenna unit is arranged to detect the applied compressive force as a variation of the capacitance at said antenna unit.

Claim 4 (Original): Squeeze protecting device according to claim 1, characterised by that said antenna unit comprises a plurality of conductive elements connected to said detecting circuit.

Claim 5 (Currently amended): Squeeze protecting device according to claim 1, ~~wherein 4, or 5, characterised by that said means of~~ the detecting circuit ~~detects for detecting a capacitive variation at the antenna unit is arranged to detect~~ the applied compressive force as a variation of the capacitance between a first conductive element and a second element of the antenna unit.

Claim 6 (Currently amended): Squeeze protecting device~~Squeezing unit~~ according to claim 2, ~~or 3,~~ characterised in that each of said conductive elements of said antenna unit is connected to said detecting ~~circuit~~unit via a relay, wherein said electric or electromagnetic field can be directed in a desired

direction by switching on or off, respectively, suitable conductive elements of the antenna unit.

Claim 7 (Currently amended): Squeeze protecting device according to ~~claim any one of claims 1-6~~ or 2, characterised in that said housing comprises a first isolating material and that said antenna unit comprises a second isolating material.

Claim 8 (Original): Squeeze protecting device according to claim 1 or 2, characterised in that said antenna unit has a circular cross section.

Claim 9 (Currently amended): Squeeze protecting device according to ~~claim 1 or 2 any one of preceding claims~~, characterised in that masking means is arranged at a grounded object located adjacent to said squeeze protecting device, wherein a detection of said grounded object as a conductive object is avoided.

Claim 10 (Currently amended): Squeeze protecting device according to claim 9, characterised in that said masking means comprises a conductor connected to said detecting ~~circuit unit~~ arranged on the grounded object located adjacent to said squeeze protecting device, wherein the

detection of said grounded object as the[[a]] conductive object is avoided.

Claim 11 (Currently amended): Squeeze protecting device according to claim 9, characterised in that said masking means comprises a conductive element connected to said antenna unit mounted at the grounded object located adjacent to said squeeze protecting device, wherein the detection of said grounded object as the[[a]] conductive object is avoided.

Claim 12 (Currently amended): Method for, at a squeeze protecting device arranged at a door, detecting the presence of an object in a protection field, which squeeze protecting device comprises a housing and an antenna unit connected to a detecting circuit, comprising the step of, via said antenna unit, detecting capacitive variations in an electric or electromagnetic field at said antenna unit, characterised by the steps of:

detecting a variation of the pressure at said antenna unit caused by a compressive force applied to said housing,

generating an electric or electromagnetic field at the antenna unit;

maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

preventing the detecting circuit~~unit~~ from being affected by variations in temperature and moisture;

detecting small variations in the generated electric or electromagnetic field at the antenna unit; and

indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred,

wherein the presence of conductive as well as non-conductive objects in said protection field can be detected.

Claim 13 (Currently amended): Method for, at a squeeze protecting device arranged at a door, detecting the presence of an object in a protection field, which squeeze protecting device comprises a housing and an antenna unit connected to a detecting circuit, comprising the step of, via said antenna unit, detecting capacitive variations in an electric or electromagnetic field at said antenna unit, characterised by the steps of:

detecting a variation of the distance between a first and a second conductive element of said antenna unit;

~~generating means for~~ generating an electric or electromagnetic field at the antenna unit;

maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

preventing the detecting circuit~~unit~~ from being affected by variations in temperature and moisture;

detecting small variations in the generated electric or electromagnetic field at the antenna unit; and

indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred,

wherein the presence of conductive as well as non-conductive objects in said protection field can be detected.

Claim 14 (Original): Method according to claim 12, characterised by the step of detecting the compressive force applied to said housing as a variation of the distance between a first and a second conductive element of said antenna unit.

Claim 15 (Currently amended): Method according to claim 12 or[[,]] 13,~~or 14~~, characterised by the step of directing said electric or electromagnetic field in a desired direction by switching on~~in~~ or off, respectively, suitable conductive elements.

Claim 16 (Currently amended): Method according to claim 12 or 13~~any one of preceding claims~~, characterised by the step of masking a grounded object located adjacent to said squeeze protecting device, wherein a detection of said grounded object as a conductive object is avoided.

Claim 17 (Currently amended): Method according to claim 16, characterised in that said step of masking comprises the step of arranging a conductor connected to said detecting circuit~~unit~~ on the grounded object located adjacent to said squeeze protecting device, wherein the detection of said grounded object as the[[a]] conductive object is avoided.

Claim 18 (Currently amended): Method according to claim 16, characterised in that said step of masking comprises the step of mounting a conductive element connected to said antenna unit at the grounded object located adjacent to said squeeze protecting device, wherein the detection of said grounded object as the[[a]] conductive object is avoided.

Claim 19 (Currently amended): A contact~~Contact~~ rail provided with the[[a]] squeeze protecting device ~~arranged to detect the presence of an object in a protection field~~

~~comprising a housing and an antenna unit connected to a detecting unit, which circuit is arranged to, via said antenna unit, detect capacitive variations in an electric- or electromagnetic field at said antenna unit, characterised by the squeeze protecting device according to claim 1 or 2any one of claims 1-11.~~

Claim 20 (Currently amended): System for detecting the presence of an object in a protection field, comprising a contact rail for mounting at an automatic door and a detecting circuit connected to an antenna unit arranged in said rail, which circuit is arranged to, via said antenna unit, detect capacitive variations in an electric- or electro-magnetic field at said antenna unit, characterised in that said detecting circuit comprises:

~~means connected to said antenna unit arranged to detect a variation of the pressure at said antenna unit caused by compressive force against said housing,~~

a signal generator that provides a signal to the antenna unit that generates~~generating means for generating thean~~ electric or electro-magnetic field at the antenna unit;

balancing means for maintaining the generated electric or electromagnetic field at the antenna unit in a balanced condition;

filter means for preventing the detecting ~~circuit~~unit from being affected by variations in temperature and moisture; and

detecting means for detecting small variations in the generated electric or electromagnetic field at the antenna unit and/or a variation of pressure at said antenna unit caused by a compressive force against said rail, ~~and~~

~~indication means for indicating that a variation in the electric or electromagnetic field at the antenna unit has occurred,~~ wherein the presence of conductive as well as non-conductive object~~subject~~ in said protection field can be detected.

Claim 21 (Currently amended): System for detecting the presence of an object in a protection field comprising a contact rail for mounting at an automatic door and a detecting circuit connected to an antenna unit arranged in said rail, which circuit is arranged to, via said antenna unit, detect capacitive variations in an electric- or electro-magnetic field at said antenna unit, characterised in that said ~~that said~~ antenna unit comprises a plurality of conductive elements connected to said detecting circuit and that said detecting circuit comprises:

~~means connected to said antenna unit arranged to detect a compressive force applied at said housing as a~~

~~variation of the distance between a first and a second
conductive element of the antenna unit;~~

a signal generator that provides a signal to the
antenna unit that generates~~generating means for generating
the~~ electric or electro-magnetic field at the antenna
unit;

balancing means for maintaining the generated electric
or electromagnetic field at the antenna unit in a balanced
condition;

filter means for preventing the detecting circuit~~unit~~
from being affected by variations in temperature and
moisture; and

detecting means for detecting small variations in the
generated electric or electromagnetic field at the antenna
unit and/or detecting a compressive force applied at said
rail as a variation of the distance between a first
conductive element and a second conductive element of the
plurality of conductive elements; ~~and~~

~~indication means for indicating that a variation in
the electric or electromagnetic field at the antenna unit
has occurred,~~

wherein the presence of conductive as well as non-
conductive objects~~object~~ in said protection field can be
detected.

Claim 22 (Currently amended): System for detecting the presence of an object in a protection field according to claim 20 or 21, comprising ~~a first contact rail according to claim 19 mounted at an automatic door and a second~~ another contact rail that is~~according to claim 19~~ mounted on a grounded object located adjacent to said automatic door and that includes another detecting means, wherein the detecting means and said another detecting means are synchronized in order to provide identical signals such that a detection of said grounded object as a conductive object is avoided.